

What is claimed is:

1. A joining method for a frame of spectacles, comprising:
deforming a joining portion of a member made of a shape memory alloy
material so as to be insertable into a pipe for joining the member to a lens rim;
and
joining the joining portion of the member to the pipe by returning the
joining portion of the member to an original shape before the deformation after the
member is inserted into the pipe.
- 10 2. The joining method of claim 1, further comprising:
cooling the member at a temperature below a transformation temperature
of the member before the deforming step.
- 15 3. The joining method of claim 2, wherein a diameter of the joining
portion of the member is greater than a diameter of the pipe before the deforming
step, and a diameter of the joining portion of the member is not greater than a
diameter of the pipe after the deforming step.
- 20 4. The joining method of claim 2, wherein the joining portion of the
member is deformed so as to be insertable into the pipe by a groove rolling
process using a roller having a plurality of grooves on the surface.
- 25 5. The joining method of claim 2, wherein the joining portion of the
member is deformed so as to be insertable into the pipe by a swaging process

rotating and hitting the outer surface of the joining portion with a hammer in the rotation.

6. The joining method of claim 2, wherein the member is a NiTi alloy.

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7. The joining method of claim 2, further comprising:
joining the pipe to the lens rim before the deforming step.

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8. The joining method of claim 2, further comprising:
joining the pipe to the lens rim after the joining step.

9. The joining method of claim 1, wherein the member is a shape
memory alloy having a superelasticity effect, and the deforming step is performed
at a temperature not less than a transformation temperature of the member.

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10. The joining method of claim 9, wherein a diameter of the joining
portion of the member is greater than a diameter of the pipe before the deforming
step, and a diameter of the joining portion of the member is not greater than a
diameter of the pipe after the deforming step.

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11. The joining method of claim 9, wherein the joining portion of the
member is deformed so as to be insertable into the pipe by a groove rolling
process using a roller having a plurality of grooves on the surface.

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12. The joining method of claim 9, wherein the joining portion of the

member is deformed so as to be insertable into the pipe by a swaging process rotating and hitting the outer surface of the joining portion with a hammer in the rotation.

5 13. The joining method of claim 9, wherein the member is a NiTi alloy.

14. The joining method of claim 9, further comprising:
joining the pipe to the lens rim before the deforming step.

10 15. The joining method of claim 9, further comprising:
joining the pipe to the lens rim after the joining step.

16. The joining method of claim 1, wherein the member is a bridge or
a temple.

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17. A joining method for a frame of spectacles, comprising:
inserting a joining portion of a member made of a shape memory alloy
material and having an outer diameter same with an inner diameter of a pipe into
the pipe for joining it to a lens rim;

20 deforming the joining portion of the member and the pipe in order to
reduce the size of the joining portion and the outer diameter of the pipe; and
joining the joining portion of the member to the pipe by returning the
joining portion of the member to an original shape before the deformation.

25 18. The joining method of claim 17, further comprising:

cooling the member at a temperature not greater than a transformation temperature of the member before the deforming step.

19. The joining method of claim 17, wherein the member is a shape
5 memory alloy having a superelasticity effect, and the deforming step is performed
at a temperature not less than a transformation temperature of the member.

20. A frame of spectacles, comprising:
a temple or a bridge made of a shape memory alloy material; and
10 a joining pipe joined to a lens rim;
wherein a joining portion of the temple or the bridge is deformed so as to
be insertable into the pipe, and the joining portion of the member is joined to the
pipe by returning to an original shape before the deformation after being inserted
into the pipe.

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